NGB 3-76

NATIONAL GUARD BUREAU MANPOWER STUDY

Survey of North Carolina National Guard on Tuition Assistance Programs

Author: Dennis P. Levin

NOV 1975

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
WASHINGTON, D.C. 20310

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SURVEY OF THE NORTH CAROLINA NATIONAL GUARD ON TUITION ASSISTANCE PROGRAMS

NATIONAL GUARD BUREAU

NOVEMBER 1975

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: NGB-3-76	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): SURVEY OF THE NORTH CAROLINA NATIONAL GUARD ON TUITION ASSISTANCE PROGRAMS	5. TYPE OF REPORT & PERIOD COVERED: Final 1975
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): CPT Dennis P. Levin	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Office of the Adjutant General, PO Drawer 26268, Raleigh, NC 27611	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: NATIONAL GUARD BUREAU, Department of Army and Air Force, Washington, DC 20310	12. REPORT DATE
	13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report)
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public Release, distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

National Guard Bureau	Military Reserves	Youth
National Guard	Attitudes	Education
Army National Guard	Incentives	North Carolina
Air National Guard	Enlistment	South Dakota

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

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categories studied with significantly higest intent among career members of the Guard. Age and educational level were found to be of little consequence in predicting acceptance of tuition assistance.

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
WASHINGTON, D.C. 20310

28 DEC 1975

NGB-PO

SUBJECT: Research Studies, Surveys and Reports in Support of Planning

The Adjutants General of all States, Puerto Rico, the Virgin Islands and the District of Columbia

1. At our 97th General Conference in Seattle, the principal subject of my address was long range planning. In the weeks since the close of the Conference, I am sure that each of you has had a chance to give this subject some consideration. Although the National Guard has been recognized as being less expensive than active forces by the Congress and the Department of Defense, we are constantly being challenged at all levels to justify our operations. We must be able to do a better job of planning, not only for this year, but also for three, five and ten years from now.

2. As an initial effort of National Guard Bureau planning, I have established the National Guard Bureau Research Advisory Committee to initiate the NGB planning program (Inclosure 1). This committee is working closely with our advertising agency. It will also use other outside, independent firms to conduct part of the required research, however, expertise within the National Guard will not be ignored. Of first priority for the committee is the preparation of a program for the current fiscal year. This program will be designed to support the recruiting and retention efforts of the National Guard in the most economical manner, and, at the same time, establish a data base from which long-range national, state and unit programs can logically be developed. I expect this effort to be an ongoing program and modifications to it will be made as a result of well developed research.

3. To assist us in compiling data concerning the market we have for our product, the National Guard, we need your help. In the past, I have noted that many states, units and individuals have conducted attitudinal surveys covering potential enlistees, prior service personnel and current members of the National Guard. Unfortunately, much of this information is not filed in a manner that it can be reviewed by others engaged in similar research projects. I would appreciate it if by the 30th of January 1976 you would send copies of available surveys to the Research Advisory Committee for review and consideration for inclusion in the data files. A bibliography of these and other pertinent studies will be prepared and forwarded for your use.

Incl

LA VERNE E. WEBER
Major General, USA
Chief, National Guard Bureau

DISTR: A

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Inclosure 1

PREFACE

This study was undertaken as a result of a growing interest within the North Carolina National Guard to provide an incentive which would both retain personnel and develop their proficiency. Tuition assistance has long been assumed to be such an incentive, however with very little hard evidence to support or deny it. As such a benefit is not available through federal funding, each of the fifty-three separate militias must seek appropriations from their supporting states or territories. Fresh evidence is, therefore, required by each militia to justify such a request for funds. It is within this context that the following study was set forth.

The study provided the prime evidence to support an appropriation for tuition assistance from the North Carolina State Legislature. In addition, the study has received national recognition as a supporting document for a similar federal program, now under consideration.

Grateful acknowledgement is extended to the South Dakota National Guard for providing a similar, unpublished study to be used in conjunction with this one. Further acknowledgement is extended to Mrs. Freda J. Shelton, whose dedicated assistance in preparing the survey and compiling the results added immeasurably to its accuracy and timely completion. Finally, grateful appreciation is proffered to my wife, Peggy, whose proof-reading ability is exceeded only by the author's propensity to make it necessary.

Dennis P. Levin
November, 1975

ABSTRACT

A random sample of members of the North Carolina National Guard was surveyed regarding the acceptability of a tuition assistance benefit as an incentive to remain in the Guard. Variables studies included career status, age, and educational level. A total of 51 respondents answered a variety of questions pertaining to tuition assistance. Data was analysed using the Fischer "t" test and Chi-Square methods, depending on the nature of the data from each question, to determine if significant variations existed between the major variables. It was found that tuition assistance would be welcomed within all categories studied with significantly higher intent among career members of the Guard. Age and educational level were found to be of little consequence in predicting acceptance of tuition assistance.

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INTRODUCTION

Background

In 1972, the Acting Secretary of Defense, Nathan Brodsky, stated that;

> With an all-volunteer force a possibility in the near future, the military wants to expand all its educational programs. One reason for this is to attract volunteers and another is because the armed forces feel they have a mission to upgrade their personnel.

The National Guard has historically been an all volunteer force. During the Vietnam era, it provided a viable alternative to active military service and the draft. As such, there was no problem in obtaining qualified volunteers in large numbers. Further, the overall educational level of the young recruits was the highest ever, and the need for educational programs to recruit or upgrade personnel was negligeable.

Since the demise of the draft, however, the picture has changed considerably. The lines of eager volunteers has shrunk and the overall educational level has been reducing as Vietnam era recruits leave and lower standards are used to keep strength figures high. As a result, an interest has developed in a number of states regarding the incorporation of educational benefits for members of the Guard. The consensus has seemed to be that such benefits are a significant incentive to recruitment and retention.

Problem

Do educational benefits provide a viable incentive for recruiting and retention in the National Guard, and if so, to whom do they most apply?

While much has been written regarding educational programs in the military and large expenditures have been made anually to provide educational benefits, there exists a dearth of information on the actual effectiveness of educational benefits as incentives to enlist or re-enlist.

Purpose

The purpose of this paper is to examine tuition assistance as a retention factor in the National Guard.

Objectives

The objectives of this paper are as follow:

1. To examine the probable usage of tuition assistance by members of the North Carolina National Guard.
2. To differentiate between that usage with regard to the following demographic categories: age, career status, and educational level.

REVIEW OF LITERATURE

An article by Captain Anne L. Ducey in Change, April, 1972, entitled "Higher Education for the Military", addresses the need for special educational programs for members of the armed forces. The article covers those programs which have developed in conjunction with civilian schools and tuition assistance benefits to servicemen. Her article emphasizes the large numbers of servicemen who have participated in these programs and speculates on the future role of the military in providing civilian education to its members.

A September, 1969 article by William Steif entitled, "G.I. Bill Failing to Attract Vietvets," in College and University Business discusses the relative failure of the Veterans Administration to attract recent veterans with educational benefits. The article cites the relatively higher educational level of veterans and the availability of jobs as the prime reasons why veterans are not returning to schools as they did after World War II and the Korean conflict.

"A Community College for the Air Force" in the Air Force Magazine, March, 1972 by Captain John T. Correll describes the initiation of a program which offers accreditation for military vocational training. The author speculates on the worth and growth of such a program and the means by which it interfaces with civilian institutions.

George L. Ross in "SOC, CCAF, SOC, CLEP, USAFI--Alphabet Soup Never Tasted So Good", Community and Junior College Journal, October, 1974 discusses the value of various educational programs for servicemen. He describes the manner in which these programs function and

their intrinsic merits. He particularly emphasizes the value of educational programs in the military for recruiting purposes.

In 1974, the South Dakota National Guard conducted a study involving all its members to determine those incentives which most affect retention in their organization. The survey response was roughly 60% with over 2,550 respondants. While detailed statistical analysis was not performed, aside from raw figures and percentages, there appears a very strong indication that tuition assistance benefits are, in fact, a significant factor in retention. Excerpts from this study regarding educational incentives may be found in Appendix A of this paper. The author took the liberty of analyzing the data from this study using chi-square tests to determine if any differentiation can be made between those with under six years of service (non-career) and those with over six years of service (career) in their responses to certain questions. Significant differences ($P=<.05$) were found in responses to questions 17, 18, 19, 20, 21, 22, and 25. All of these questions examine the value of educational benefits to members of the South Dakota National Guard. Each provides the basis for certain questions used in this study which will be compared in the section on data analysis.

HYPOTHESIS

The availability of tuition assistance is a significant factor in promoting retention in the North Carolina National Guard, especially among the young, junior serviceman on his first enlistment, and among those with a lower educational level.

An incentive is a promise to fulfill a need contingent upon evidence of a desired behavior. The fulfillment of the individual's need must be acceptable to the institution and the desired behavior must be acceptable to the individual if the two are to favorably interact. The need in this case is actually a spinoff of other needs, e.g., job security, promotion, status, financial security, etc. The need for education and the means to obtain it is here regarded as strong enough in a large enough group to make it worthwhile for the organization to make tuition assistance available on a wide scale in return for an extension of service obligation from those who accept.

Since the majority of persons attending school are under age 25 and also are generally non-career status, it is hypothesized that those represented in these categories would be most responsive to a tuition assistance benefit.

Further, past studies indicate that veterans of World War II and of the Korean conflict had lower educational levels than contemporary servicemen and subsequently took advantage of educational benefits in proportionately larger numbers than contemporary veterans. Hence, it follows that the higher one's educational level, the less likely one is to take advantage of a tuition assistance benefit.

METHODOLOGY

Variables

The independent variables in this study are: the suggestion that tuition assistance may be offered, age, time in service, and educational level.

The dependent variables are: one's willingness to extend one's military obligation in the National Guard, and one's ability to attend school.

Operational Definitions

Tuition assistance benefit: A monetary supplement provided by the State of North Carolina to defer the cost of tuition at an educational institution.

Retention: The voluntary extension of one's service obligation through active participation in the National Guard.

Career status: non-career; Guardsmen with less than six years of military service; career, Guardsmen with six or more years of military service.

Significance: The probability of acceptance of a null hypothesis is less than 5% ($P = .05$).

Sample

The sample for this study was drawn from the 11,868 members composing the North Carolina National Guard. Of these, 147 individuals were selected at random using the last two digits of their social security numbers. These subjects were asked to complete a questionnaire

within a 12 day time frame. 51 responses were received from these individuals, including representatives from all ages, ranks, career statuses, and educational levels. (The questionnaire and cover letter may be found in Appendix B.)

Intervening Variables

Certain intervening variables are noted. These include the rapidity of response, the nature of the survey, job satisfaction, and family and peer pressure.

Data Collection

Level of education and age were collected from National Guard records; career status was determined by responses to question 1 of the survey. Questions 8, 12, 13, 14, 15, 16, and 17 were included to measure the extent and nature of interest in tuition assistance as a retention incentive. Questions regarding other retention incentives were included to be analyzed at a later date. Hence, only those questions pertaining to educational benefits were addressed in this study.

Question 1: How long have you served in the NG?

___	6 months or less
___	6 months - 1 year
4	1 - 2 years
7	2 - 3 years
9	3 - 4 years
7	4 - 5 years
8	5 - 6 years
___	6 -10 years
10	10 -20 years
6	More than 20 years
51	TOTAL

This data was then divided into two groups to indicate career status: those with less than 6 years of service, and those with 6 years or more of service.

35 Non-Career
16 Career
51 TOTAL

As age 25 tends to be the age at which a Guardsman decides whether or not to re-enlist in the National Guard, individuals were divided according to this age. Out of the 51 respondents:

28 were 25 years old or less, and
23 were 26 years old or more.
51 TOTAL

Individuals were divided into four categories according to their levels of education:

8 Non-High School Graduates
27 High School Graduates or General Educational Development (GED)
14 Some College
2 College Degrees
51 TOTAL

Question 8: Below is a list of twelve incentives. Please rank them according to their importance to you when considering continued participation in the Guard. Place a one (1) next to the most important, a two (2) next to second most important, and so forth until the least important is number twelve (12).

___ Increased drill pay
___ Shorter training hours
___ Promotion when eligible
___ Increased retirement benefits
___ A re-enlistment bonus program
___ Better training equipment
___ Less annual active duty for training
___ Improved fringe benefits (exchange privileges, life insurance, medical benefits)
___ Increase opportunities for civilian skill training
___ Increase my awareness of the importance of Guard duties
___ More realistic and useful training
___ Free tuition at state supported schools

The following are numerical ratings given to tuition assistance, i.e., free tuition at state supported schools:

NUMERICAL RATING GIVEN TO TUITION ASSISTANCE ON SCALE OF 1 to 12
BY YEARS OF SERVICE

Rating	# of Non-Career Respondents	# of Career Respondents	Total
1	2	1	3
2	0	2	2
3	4	0	4
4	1	0	1
5	5	3	8
6	5	0	5
7	3	2	5
8	1	1	2
9	3	2	5
10	2	2	4
11	1	3	4
12	6	0	6
	33	16	49

NUMERICAL RATING GIVEN TO TUITION ASSISTANCE ON SCALE OF 1 to 12
BY AGE

Rating	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
1	1	2	3
2	0	2	2
3	2	2	4
4	1	0	1
5	4	4	8
6	4	1	5
7	3	2	5
8	1	1	2
9	2	3	5
10	2	2	4
11	1	3	4
12	5	1	6
	26	23	49

For analytic purposes, data by educational level was grouped into the following four categories: ratings 1-4 into group I, ratings 5-8 into group II, and ratings 9-12 into group III.

NUMERICAL RATING GIVEN TO TUITION ASSISTANCE ON SCALE OF 1 to 12
BY EDUCATIONAL LEVEL

Rating	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
I	2	3	4	1	10
II	2	13	5	0	20
III	4	9	5	1	19
	8	25	14	2	49

Question 12: If your future plans include additional college or vocational education, do you intend to remain in the MCT

___ Do not plan additional education (A)
___ Plan to remain with unit assigned (B)
___ Would like to transfer to unit closer to educational institute (C)
___ Would be attending school out of state (D)
___ Currently attending school (E)

FUTURE PLANS
BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	20	7	27
B	10	7	17
C	1	0	1
D	0	0	0
E	4	0	4
	35	14	49

FUTURE PLANS

BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	18	9	27
B	5	12	17
C	1	0	1
D	0	0	0
E	4	0	4
	28	21	49

FUTURE PLANS

BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	4	18	5	0	27
B	4	6	5	2	17
C	0	0	1	0	1
D	0	0	0	0	0
E	0	2	2	0	4
	8	26	13	2	49

Question 13: Would you attend further college or vocational courses if you were granted assistance from private or government sources?

___ If 50% or more of tuition is paid (A)
___ If up to 50% of my tuition is paid (B)
___ If I receiv free tuition in full (C)
___ No (D)

ATTENDANCE IN FURTHER COLLEGE OR VOCATIONAL COURSES

BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	9	2	11
B	4	3	7
C	8	5	13
D	13	5	18
	34	15	49

ATTENDANCE IN FURTHER COLLEGE OR VOCATIONAL COURSES

BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	6	5	11
B	4	3	7
C	5	8	13
D	12	6	18
	27	22	49

ATTENDANCE IN FURTHER COLLEGE OR VOCATIONAL COURSES

BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	1	5	4	1	11
B	1	3	3	0	7
C	3	7	2	1	13
D	3	12	3	0	18
	8	27	12	2	49

Question 14: When your obligation expires, would you agree to continue in the Guard for two more years if the state paid for tuition and fees at a state school or an equal amount at a private school?

___ I would probably continue participation without this. (A)
___ Yes, this would convince me to continue. (B)
___ No, I would not continue. (C)

AFFECT OF TUITION ASSISTANCE ON RETENTION
(Extension of Obligation)
BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	8	8	16
B	15	4	19
C	12	0	12
	35	12	47

AFFECT OF TUITION ASSISTANCE ON RETENTION
(Extension of Obligation)
BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	6	10	16
B	11	8	19
C	11	1	12
	28	19	47

AFFECT OF TUITION ASSISTANCE ON RETENTION
(Extension of Obligation)
BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	4	7	4	1	16
B	3	8	7	1	19
C	1	9	2	0	12
	8	24	13	2	47

Question 15: Would you be willing to stay in the Guard as long as you were to receive 50% of your college or vocational tuition each semester from the state?

___ Definitely (A)
___ Possibly (B)
___ Definitely not (C)

AFFECT OF TUITION ASSISTANCE ON RETENTION
(HALF TUITION)
BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	7	11	18
B	19	2	21
C	9	0	9
	35	13	48

AFFECT OF TUITION ASSISTANCE ON RETENTION
(HALF TUITION)
BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	4	14	18
B	15	6	21
C	9	0	9
	28	20	48

AFFECT OF TUITION ASSISTANCE ON RETENTION
(HALF TUITION)
BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	3	7	7	1	18
B	4	11	5	1	21
C	1	7	1	0	9
	8	25	13	2	48

Question 16: If you were to receive 50% of your college or vocational tuition each semester, solely upon being an active member of the Guard, could you continue your education?

___ Definitely (A)
___ Possibly (B)
___ Not able to at this time (C)
___ Definitely not (D)

CONTINUANCE OF EDUCATION
BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	3	5	8
B	16	2	18
C	11	6	17
D	4	0	4
	34	13	47

CONTINUANCE OF EDUCATION

BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	1	7	8
B	11	7	18
C	11	6	17
D	4	0	4
	27	20	47

CONTINUANCE OF EDUCATION

BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	0	3	4	1	8
B	3	8	7	0	18
C	4	10	2	1	17
D	0	4	0	0	4
	7	25	13	2	47

Question 17: Obstacles to attending further college or vocational training include:

___ Cost of tuition (A)
___ Room and board (B)
___ Family responsibility (C)
___ Not interested (D)
___ Do not want to leave present employment (E)
___ Lack entrance requirements (F)
___ Other (specify) (G)

OBSTACLES TO ATTENDANCE

BY YEARS OF SERVICE

Response	# of Non-Career Respondents	# of Career Respondents	Total
A	4	2	6
B	0	0	0
C	14	8	22
D	4	0	4
E	7	3	10
F	1	0	1
G	3	0	3
	33	13	46

OBSTACLES TO ATTENDANCE

BY AGE

Response	# of Respondents Age 25 or Less	# of Respondents Age 26 or More	Total
A	2	4	6
B	0	0	0
C	12	10	22
D	4	0	4
E	6	4	10
F	1	0	1
G	1	2	3
	26	20	46

OBSTACLES TO ATTENDANCE

BY EDUCATIONAL LEVEL

Response	# of Non-High School Graduates	# of High School Graduates	# with Some College	# with College Degree	Total
A	1	1	3	1	6
B	0	0	0	0	0
C	4	13	5	0	22
D	0	4	0	0	4
E	1	7	2	0	10
F	1	0	0	0	1
G	0	0	2	1	3
	7	25	12	2	46

DATA ANALYSIS

QUESTION 8:

Ranking	Total Respondents	% Total Respondents	Years of Service: Non-Career	% Non-Career	Career	% Career
1	3	6.1%	2	6.1%	1	6.3%
2	2	4.1%	0	0%	2	12.5%
3	4	8.2%	4	12.1%	0	0%
4	1	2.0%	1	3.0%	0	0%
5	8	16.3%	5	15.2%	3	18.8%
6	5	10.2%	5	15.2%	0	0%
7	5	10.2%	3	9.1%	2	12.5%
8	2	4.1%	1	3.0%	1	6.3%
9	5	10.2%	3	9.1%	2	12.5%
10	4	8.2%	2	6.1%	2	12.5%
11	4	8.2%	1	3.0%	3	18.8%
12	6	12.2%	6	18.2%	0	0%
	49		33		16	

Ranking	Age: x ≤ 25	% x ≤ 25	x ≥ 26	% x ≥ 26
1	1	3.8%	2	8.7%
2	0	0%	2	8.7%
3	2	7.7%	2	8.7%
4	1	3.8%	0	0%
5	4	15.4%	4	17.4%
6	4	15.4%	1	4.3%
7	3	11.5%	2	8.7%
8	1	3.8%	1	4.3%
9	2	7.7%	3	13.0%
10	2	7.7%	2	8.7%
11	1	3.8%	3	13.0%
12	5	19.2%	1	4.3%
	26		23	

Level of Education

Ranking		NHS	% NHS	HS	% HS	SC	% SC	C	% C
I	1 2 3 4	2	25%	3	12%	4	28.6%	1	50%
II	5 6 7 8	2	25%	13	52%	5	35.7%	0	0%
III	9 10 11 12	4	50%	9	36%	5	35.7%	1	50%
		8		25		14		2	

The above charts depict the number of respondents and the corresponding percentages of responses for the total data and for each demographic category. The data derived from the tables concerning years of service and age is analysed by means of Fisher "t" Tests; and, level of education by chi-square testing. See Appendix D for these calculations.

Question 12:

	Response A		B		C	
Category	#	%	#	%	#	%
Total N = 49	27	55.1	18	36.7	4	8.2
Non-Career	20	57.2	11	31.4	4	11.4
Career	7	50.0	7	50.0	0	0.0
$x \leq 25$	18	64.3	6	21.4	4	14.3
$x \geq 26$	9	42.9	12	57.1	0	0.0
NHS	4	50.0	4	50.0	0	0.0
HS	18	69.2	6	23.1	2	7.7
SC	5	41.7	5	41.7	2	16.6
C	0	0.0	2	100.0	0	0.0

The above chart indicates percentages of responses by demographic categories regarding Question 12. Chi-Square Tests were applied to responses to establish differentiation within each of the three main categories. See Appendix D for Calculations.

QUESTION 13:

	Responses							
	A		B		C		D	
Category	#	%	#	%	#	%	#	%
Total N = 49	11	22.5	7	14.3	13	26.5	18	36.7
Non-Career	9	26.5	4	11.8	8	23.5	13	38.2
Career	2	13.4	3	20.0	5	33.3	5	33.3
x ≤ 25	6	22.2	4	14.8	5	18.5	12	44.4
x ≥ 26	5	22.7	3	13.6	8	36.4	6	27.3
NHS	1	12.5	1	12.5	3	37.5	3	37.5
HS	5	18.5	3	11.1	7	25.9	12	44.4
SC	4	33.3	3	25.0	2	16.7	3	25.0
C	1	50.0	0	0.0	1	50.0	0	0.0

The above table gives the percentages for each category responding to Question 13, regarding the amount of tuition assistance needed for further college or vocational attendance. Again, see Appendix D for Calculations. Chi-square tests were utilized to analyze the data.

QUESTION 14:

	Responses					
	A		B		C	
Category	#	%	#	%	#	%
Total N = 47	16	34.0	19	40.4	12	25.5
Non-Career	8	22.9	15	42.9	12	34.2
Career	8	66.7	4	33.3	0	0.0

x ≤25	6	21.4	11	39.3	11	39.3
x ≥26	10	52.6	8	42.1	1	5.3
NHS	4	50.0	3	37.5	1	12.5
HS	7	29.2	8	33.3	9	37.5
SC	4	30.8	7	53.8	2	15.4
C	1	50.0	1	50.0	0	0.0

The above chart shows the results to question 14 concerning the affect of tuition assistance on retention. Chi-square tests were applied to the data to determine significant relationships between the variables. Calculations are in Appendix D.

QUESTION 15:

	Responses					
	A		B		C	
Category	#	%	#	%	#	%
Total N = 48	18	37.5	21	43.8	9	18.7
Non-Career	7	20.0	19	54.3	9	25.7
Career	11	84.6	2	15.4	0	0.0
x ≤25	4	14.3	15	53.6	9	32.1
x ≥26	14	70.0	6	30.0	0	0.0
NHS	3	37.5	4	50.0	1	12.5
HS	7	28.0	11	44.0	7	28.0
SC	7	53.8	5	38.5	1	7.7
C	1	50.0	1	50.0	0	0.0

The above chart indicates the percentages by category to the affect of a half tuition assistance benefit on retention. Chi-square tests were also applied to this data. See Appendix D for the calculations.

QUESTION 16:

	Responses							
	A		B		C		D	
Category	#	%	#	%	#	%	#	%
Total N = 47	8	17.0	18	38.3	17	36.2	4	8.5
Non-Career	3	8.8	16	34.0	11	32.4	4	11.8
Career	5	38.5	2	15.4	6	46.1	0	0.0
x ≤25	1	3.8	11	40.7	11	40.7	4	14.8
x ≥26	7	35.0	7	35.0	6	30.0	0	0.0
NHS	0	0.0	3	42.9	4	57.1	0	0.0
HS	3	12.0	8	32.0	10	40.0	4	16.0
SC	4	30.8	7	53.8	2	15.4	0	0.0
C	1	50.0	0	0.0	1	50.0	0	0.0

The above table gives the percentages of responses to a Guardsman's ability to continue his education given 50% of his college or vocational tuition each semester. Chi-square tests utilized are in Appendix D.

QUESTION 17:

	A		B		C		D		E		F		G	
Category	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Total N = 46	6	13.0	0	0.0	22	47.8	4	8.7	10	21.7	1	2.2	3	6.5
Non-Career	2	7.7	0	0.0	14	42.4	4	12.1	7	21.2	1	3.0	3	9.1
Career	2	15.4	0	0.0	8	61.5	0	0.0	3	23.1	0	0.0	0	0.0
x ≤25	2	7.7	0	0.0	12	46.2	4	13.4	6	23.0	1	3.8	1	3.8
x ≥26	4	20.0	0	0.0	10	50.0	0	0.0	4	20.0	0	0.0	2	10.0
NHS	1	14.3	0	0.0	4	57.1	0	0.0	1	14.3	1	14.3	0	0.0
HS	1	4.0	0	0.0	13	52.0	4	16.0	7	28.0	0	0.0	0	0.0
SC	3	25.0	0	0.0	5	41.7	0	0.0	2	16.7	0	0.0	2	16.7
C	1	50.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	50.0

The above chart depicts the responses by percentage to the obstacles which would prevent a Guardsman from continuing his education. Chi-square tests were applied to the data. Calculations are in Appendix D.

DISCUSSION

Questions on the questionnaire regarding educational benefits are numbers 8, 12, 13, 14, 15, 16, and 17 (see Appendix B). These are analyzed first as a whole and later to determine the affects of certain independent variables.

Responses to question 8, regarding the ranking of a tuition assistance benefit, ranked educational benefits nearly in the middle of twelve other possibilities with a mean score of 7.0 overall. In comparison to question 21 on the South Dakota survey, the North Carolina sample did not indicate as enthusiastic a response. This difference may be attributed to some inherent differences between the samples, or to the limited options provided in the wording of the South Dakota question.

The mean rating given by non-career Guardsmen was 7.0, while the mean rating for careerists was 7.1. A Fisher "t" test was performed on this data to establish whether any significant differences existed between these two categories (See Appendix D). It was determined that the differences were not significant.

A similar evaluation by age also established no significant differences between those 25 and under and those 26 and above. Nor was there a significant difference between those 35 and under and those 36 and above. Mean scores remained midrange on the scale for all groups.

Educational levels were broken down into four main groups: those with some high school; high school graduates; those with some college; and college graduates. Scores on question 8 for these categories were

delineated into thirds as follows: 1-4, lower third; 5-8, middle third; and 9-12, upper third. Scores and categories were compared using a chi-square to determine any significant differences among the different levels. No significant differences were noted on this particular question.

While the wording in question 12 appears vague, it was meant to provide both an overt response and a covert indication of intent. It was felt that a direct question of intent to continue one's education would have been too abrupt. In order to determine whether further education was a possibility for consideration, the question was worded such that at first impression, the respondent would be concentrating on the value of transfering to another unit, rather than on the possibility of continuing his education. In this subtle way, the respondent did, in fact, indicate educational intent with minimal interference from immediate plans. The overt response to question 12 allowed the unit commander some indication of the likelihood of an individual transferring to another unit as a result of educational pursuits.

Question 12 of the survey indicates that 55.1% of those responding do not plan additional education; 34.7% would stay with the unit assigned; 2% would transfer to a unit close to the school; none would attend school out of state; and 8.2% are currently attending school. These responses indicate that if tuition assistance were offered, 44.9% of the Guard would possibly use it.

In further analysis, chi-square tests detected significant differences ($P = < .05$) between career and non-career personnel on the South Dakota study among those who would possibly go to school, with careerists generally looking to remain in their unit and more prone to include school

retention incentive. Responses indicated that 34% would re-enlist without tuition assistance; 25.4% would leave even if it were offered; and 40.4% would definitely remain contingent on tuition assistance. This indicated that if tuition assistance were offered, the Guard's retention rate should increase from 34% to 74.4%. The response to this question varied only slightly from actual rates of retention in North Carolina which presently run at 30%. The slight difference may be a function of the type of person most likely to respond to the questionnaire.

These figures approximate the response to the South Dakota study (question 17) which indicated an increase from 32% to 7d% based on their survey. The consistency of these figures lends credence to the study's internal and external validity regarding this question.

A chi-square analysis of this question on the South Dakota study indicated, not surprisingly, that careerists are more prone to re-enlist without the benefit and non-careerists consider tuition assistance more of a factor in their decision. Similar results are noted in the North Carolina study. Age is also a significant factor, with older personnel more likely to remain in the Guard. Educational level again, was not a significant factor.

Question 15 was a measure of one's willingness to remain in the Guard based on receiving 50% of tuition costs. Responses indicate 37.3% of the Guard would definitely remain; 43.8% would possibly remain; and 18.7% would not remain. A similar question (# 25) on the South Dakota study indicates a significant difference between careerists and non-careerists in that careerists were most likely to remain overall. The same holds true on the North Carolina study. This is probably a function

in their future plans. No such differentiation was found significant on question 12 of the North Carolina survey, although there was some indication that most of the Guardsmen now in school are non-career.

However, a significant difference does exist in the Guard between those 25 years old and under, and those 26 and above, regarding question 12. A greater percentage of older personnel do not plan further education and less are currently attending. Further, more older personnel are willing to stay with their units if they would go to school. On the other hand, less younger men are willing to do the same. More younger men are actually in school at this time.

No significant differentiation could be made among different educational levels regarding question 12.

On question 13, regarding whether or not one would continue their education if funds were available, 22.5% indicated that it would require 50% or more of tuition to get them to continue; 14.3% required up to 50%; 26.5% required tuition in full; and 36.7% would not go regardless of the amount.

Analysis of the corresponding question on the South Dakota study (#19) indicated a significant difference between career and non-career personnel. The major differences were that careerists were less prone to attend further schooling and non-careerists were more likely to go. A similar evaluation on the North Carolina study shows no real differences, with constant proportions responding on all possibilities. The same held true for age differentiation and educational levels.

Question 14 of the survey asked whether or not the individual would be willing to extend his or her enlistment if tuition assistance were available. This question sought to measure tuition assistance as a

of the evident likelihood that a careerist will remain in the Guard without additional incentives.

Age is also a factor in question 15 in that those over 26, older personnel, are most likely to remain. No significant differences were noted between educational levels.

Question 16 asks whether receiving 50% tuition assistance is the prime factor in an individual's decision to further his education. Responses indicate that 17% definitely would continue their education; 38.3% indicate they might; 36.2% could not continue at present; and 8.5% definitely would not return to school. No question on the South Dakota study approximates question 16.

Analysis of data through chi-square tests indicate that career status is a factor with careerists more prone to continue their education with assistance, and non-careerists more undecided. Age is also a significant factor with older personnel more likely to return to school and younger personnel undecided. No differentiation can be made by educational level.

Question 17 referred to those factors an individual encounters which most interfere with future schooling. Responses indicate 1% are hindered by tuition costs; none by room and board; 47.7% by family responsibilities; 8.6% are simply not interested; 21.7% do not want to leave their present employment; 2.2% lack entrance requirements; and 6.5% indicate nothing is in the way. Analysis of responses in the South Dakota study (question 20) indicates generally similar responses, however with less variability. Further analysis indicates that career status affects every response with careerists feeling family responsibilities

and job restrictions more and non-careerists feeling tuition costs, room and board, and disinterest proportionately more.

The North Carolina study indicates no significant differences by career status, age, or educational level. Responses were proportionately the same in every category.

In the course of the survey, there were indications that variables other than those cited above may have been a factor. The wording of certain questions or specificity of responses resulted in some ambiguity and the necessity of eliminating portions of the data from the study.

The response of 34% of those surveyed is not considered exceptionally high or low for a mailed questionnaire. Future surveys may require a mandatory response; however, the context under which such assured responses would probably bias them greatly in that peers would generally be present at a drill or assembly where the questionnaire would be administered.

It should be noted that questionnaires which were returned early tended to favor tuition assistance while later responses nearer to the suspense date became more negative.

Responses indicate that while tuition assistance programs are a significant factor in retention, its influence is by no means limited by age, career status, or educational level. Such benefits would be well received by a wide variety of individuals of diverse demographic characteristics. Other characteristics, such as sex, race, religion, and occupation, were not tested due to a lack of representative respondents for each category or such diversity within a small sample that the data would have little meaning. The comparison of officers to

enlisted personnel was not undertaken due to limited officer responses and the tendency of career status to exact a wider differentiation in response than level of employment.

SUMMARY

Of the questions asked in this survey, question 14 is the only one which suggests a commitment beyond present obligations. Responses to it are most important overall. It is also of interest that career personnel and older personnel have a strong interest in taking advantage of educational programs and that younger personnel appear most undecided regarding future educational plans. In no question is educational level a factor. This indicates that requests for assistance should vary proportionately with relative educational levels in the Guard as a whole.

CONCLUSION

The hypothesis is partially acceptable in that tuition assistance is a significant factor in retention. However, differentiations by age and career status may have the reverse implications of those assumed. Educational level does not appear in any sense to affect response to educational benefits.

IMPLICATIONS FOR FUTURE RESEARCH

There is some indication that differences exist in the responses of North Carolinians from those of North Dakota to certain questions. While certain questions were responded to in a generally like manner, each state would be well advised to conduct its own survey prior to establishing tuition assistance programs. More research is needed on the attraction of tuition assistance to career personnel and older personnel, in that it appears education is specifically desired by them. Similar studies are needed on non-military samples to determine whether tuition assistance is significant as a recruiting incentive.

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APPENDIX A

EXCERPTS OF SOUTH DAKOTA STUDY

	under 6 yrs # (%)	over 6 years # (%)	Total # %
16. Would you re-enlist and continue your service in the NG if			
There continues to be no re-enlistment bonus	130 (8)	424 (46)	554 (21)
There was a re-enlistment bonus of $50.00 per year	41 (3)	30 (3)	71 (3)
There was a re-enlistment bonus of $100 per year	159 (9)	93 (10)	252 (10)
There was a re-enlistment bonus of $200 per year	209 (12)	98 (11)	307 (12)
There was a re-enlistment bonus of $400 per year	831 (49)	264 (29)	1095 (42)
No, I would not continue	318 (19)	80 (1)	328 (12)
	1688	919	2607
17. When your obligation expires, would you agree to continue in the Guard for 2 more years if you were given educational benefits similar to the GI bill regardless of your length of active duty?			
I would probably continue participation without this	293 (17)	532 (53)	825 (32)
Yes this would convince me to continue	860 (51)	342 (37)	1202 (46)
No I would not continue	529 (32)	40 (4)	569 (22)
18. If your future plans include additional college or vocational education do you intend to remain in the NG?			
Do not plan additional education	876 (53)	433 (48)	1309 (51)
Plan to remain with unit assigned	589 (36)	434 (48)	1023 (39)
W Would you transfer to unit closer to educational institution	121 (7)	26 (3)	147 (3)
Would be attending school out of state	73 (4)	6 (1)	79 (3)
	1659	899	2558
19. Would you attend further college or vocational courses if your were granted assistance from private or government sources?			
If 50% or more of tuition is paid	422 (25)	218 (24)	640 (25)
If up to 50% of my tuition is paid	199 (12)	93 (10)	292 (11)
If I receive free tuition in full	520 (31)	257 (28)	777 (30)
No	548 (32)	343 (38)	891 (34)
	1690	911	2601

	under 6 years # (%)	over 6 yrs # (%)	Total # (%)
20. Obstacles to attending further college or vocational training include:			
Cost of tuition	527 (31)	204 (22)	713 (28)
Room and Board	46 (3)	11 (2)	57 (2)
Family responsibility	386 (23)	298 (31)	684 (27)
Not interested	261 (15)	115 (13)	376 (15)
Do not want to leave present employment	392 (24)	270 (30)	669 (26)
Lack entrance requirements	43 (3)	12 (2)	55 (1)
	1655	909	2564
21. If you were to receive 50% of your college or vocational tuition each semester, solely upon being an active member of the Guard, would you continue to actively participate in the National Guard?			
It is the most significant factor	297 (18)	126 (14)	423 (16)
It is one of the most significant	454 (27)	213 (24)	667 (26)
It is of some significance	379 (23	217 (25	596 (23)
It is of little or no significance	550 (32)	329 (37)	879 (34)
22. If you were to receive 50% of your college or vocational tuition each semester, solely upon being an active member of the Guard, could you continue your education?			
Definitely	361 (21)	158 (18)	519 (20)
Possibly	654 (39)	370 (42)	1024 (40)
Not able to at this time	366 (23)	232 (26)	598 (23)
Definitely not	290 (17)	121 (14)	411 (16)
	1671	881	2552
23. When your present obligation expires, would you agree to continue in the NG if an appropriately reduced retirement pay began at 55 years of age rather than the present age of 60 years?			
I would probably continue participation without this	228 (14)	286 (31)	514 (20)
Yes, this would convince me to continue	662 (40)	587 (63)	1249 (48)
No, I would not continue	771 (47)	58 (6)	829 (32)
	1663	931	2594

	under 6 yrs #	%	over 6 yrs #	%	Total #	%
46. Which of the following would provide the greatest incentive for you to voluntarily continue participation in a NG unit?						
Increased drill pay	691	(42)	241	(26)	932	(36)
Shorter training hours	94	(6)	16	(2)	110	(4)
Promotion when eligible	104	(6)	121	(13)	225	(9)
Increased retirement benefits	49	(3)	214	(23)	263	(10)
A reenlistment bonus program	134	(8)	109	(11)	243	(9)
Better training equipment	21	(1)	15	(2)	36	(1)
Less annual active duty for trng	143	(9)	11	(1)	154	(6)
Improved fringe benefits (exchange privileges, life insurance, survival benefits)	151	(9)	130	(14)	281	(10)
Increase my awareness of the importance of Guard duties	9	(1)	7	(1)	16	(1)
Increase opportunities for civilian skill training	33	(2)	7	(1)	40	(2)
More realistic and useful training	73	(4)	29	(3)	102	(4)
Free tuition at state supported schools	139	(8)	28	(3)	167	(7)
47. What would be your second choice response to the question above?						
Increased drill pay	375	(23)	150	(17)	525	(21)
Shorter trng hours	190	(12)	28	(3)	218	(9
Promotion when eligible	152	(10)	99	(11)	251	(10)
Increased retirement benefits	83	(5)	198	(27)	281	(11)
A reenlistment bonus program	226	(14)	156	(17)	382	(15)
Better training equipment	31	(2)	14	(1)	45	(2)
Less annual active duty for trng	98	(6)	18	(2)	116	(5)
Improved fringe benefits (exchange privileges, life insurance, medical benefits)	163	(10)	145	(16)	308	(12)
Increase my awareness of the importance of Gurd Duties	18	(1)	5	(.5)	23	(1)
Increased opportunities for civilian skill training	42	(3)	17	(2)	59	(2)
More realistic and useful trng	82	(5)	37	(4)	119	(5)
Free tuition at state supportsd schools	132	(8)	42	(5)	174	(7)
	1592		909		2501	

APPENDIX B

NORTH CAROLINA SURVEY AND COVER LETTER

STATE OF NORTH CAROLINA
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DIVISION OF THE NATIONAL GUARD
OFFICE OF THE ADJUTANT GENERAL

S-5 May 1975

NCARNG-CEP

24 April 1975

SUBJECT: Recruiting and Retention Survey

You have been selected at random to receive a survey prepared by the NCNG Recruiting and Retention Office. Based on your input and that of others, we hope to develop programs that Guardsmen really need and want. You are under no obligation to respond, however, what you tell us through this survey will directly affect the kinds of decisions that are made which can improve the Guard.

Answers to the survey will be considered on 5 May 1975. While we realize that this is a short suspense, the urgency of certain decisions require us to set that date.

Thank you for your consideration.

DENNIS P. LEVIN
CPT, MI, NCARNG

B-1

1. How long have you served in the NG?

6 months or less
6 months - 1 year
1 - 2 years
2 - 3 years
3 - 4 years
4 - 5 years
5 - 6 years
6 - 10 years
10 - 20 years
More than 20 years

2. How did you first enter military service?

My initial entry was into the active service and I

(a) _____Enlisted for service in the regular force
(b) _____Was involuntarily inducted (drafted) thru Selective Service
(c) _____Volunteered for induction (asked to be drafted)
(d) _____Enlisted through an officer commissioning program.

My initial entry was into the National Guard and I

(a) _____Enlisted under a program requiring only active duty for training
(b) _____Enlisted in the reserve with a 2-year active duty commitment
(c) _____Enlisted without any active duty commitment at all
(d) _____Was commissioned after completing ROTC program
(e) _____Was commissioned with no active duty commitment.

3. If you entered the NG after separation from active duty, which of the following best describes how you joined a unit?

_____Does not apply to me
_____I had a reserve obligation and voluntarily joined a NG unit
_____I did not have a reserve obligation and I voluntarily joined a unit

4. What was the primary reason for your initial entry into the NG?

_____Involuntarily assigned from active forces
_____To learn a trade or skill that would be valuable in civilian life
_____Wanted my choice of service rather than be drafted
_____To serve my country
_____To fulfill my military obligation at a time of my choice
_____Opportunity for advanced education, professional training
_____Had a chance at officer's commission instead of being drafted
_____Drill and training pay
_____Retirement benefits
_____For the travel, excitement, new experience
_____To become more mature and self-reliant
_____Other important influence but none of the above

5. If there had been no draft and you had not had any military obligation at the time you first entered military service, do you think you would have entered the service?

_____Yes, I definitely would have entered the service
_____Yes, I probably would have entered the service
_____No, I probably would not have entered the service
_____No, I definitely would not have entered the service
_____I have no idea what I would have done

6. What is the most favorable aspect of your present active participation in the NG?

_____Promotion opportunities
_____Pay and allowances
_____Training opportunities
_____Enjoyment of Guard duties
_____Retirement benefits
_____Pride in Guard membership
_____Knowing that I play a part in the defense of my country
_____Personal friendships, broadened social and business contacts

7. What is the greatest disadvantage of continued drill participation in the Guard for you?

_____Possibility of call-up to active duty
_____Unproductive and boring drills
_____Conflict with civilian employment
_____Regulations and discipline of military life
_____Too great an inconvenience on family and free time
_____Insufficient pay
_____Poor utilization of my skills
_____Poor promotion chances
_____Obsolete or inadequate training equipment

8. Below is a list of twelve incentives. Please rank them according to their importance to you when considering continued participation in the Guard. Place a one (1) next to the most important, a two (2) next to second most important, and so forth so that the least important incentive is number twelve (12).

_____Increased drill pay
_____Shorter training hours
_____Promotion when eligible
_____Increased retirement benefits
_____A re-enlistment bonus program
_____Better training equipment
_____Less annual active duty for training
_____Improved fringe benefits (exchange privileges, life insurance, medical benefits)
_____Increase opportunities for civilian skill training
_____Increase my awareness of the importance of Guard duties
_____More realistic and useful training
_____Free tuition at state supported schools

9. Which best describes efforts for encouraging you to continue in the NG?

My opportunities have been fully explained and

_____I have been encouraged to continue
_____I have not been encouraged

I have received some information about continuing and

_____I have been encouraged to continue
_____I have not been encouraged

_____I have received no information

10. Do you plan to continue in the National Guard beyond your present obligation?

_____Yes
_____No
_____Undecided
_____Not applicable

11. Would you re-enlist and continue your service in the NG if

_____There continues to be no re-enlistment bonus
_____There was a re-enlistment bonus of $50 per year
_____There was a re-enlistment bonus of $100 per year
_____There was a re-enlistment bonus of $200 per year
_____There was a re-enlistment bonus of $400 per year
_____No, I would not continue

12. If your future plans include additional college or vocational education, do you intend to remain in the NG?

_____Do not plan additional education
_____Plan to remain with unit assigned
_____Would like to transfer to unit closer to educational institute
_____Would be attending school out of state
_____Currently attending school

13. Would you attend further college or vocational courses if you were granted assistance from private or government sources?

_____If 50% or more of tuition is paid
_____If up to 50% of my tuition is paid
_____If I receive free tuition in full
_____No

14. When your obligation expires, would you agree to continue in the Guard for two more years if the state paid for tuition and fees at a state school or an equal amount at a private school?

_____I would probably continue participation without this
_____Yes, this would convince me to continue
_____, No, I would not continue

15. Would you be willing to stay in the Guard as long as you were to receive 50% of your college or vocational tuition each semester from the state?

_____Definitely
_____Possibly
_____Definitely not

16. If you were to receive 50% of your college or vocational tuition each semester, solely upon being an active member of the Guard, could you continue your education?

_____Definitely
_____Possibly
_____Not able to at this time
_____Definitely not

17. Obstacles to attending further college or vocational training include:

_____Cost of tuition
_____Room and board
_____Family responsibility
_____Not interested
_____Do not want to leave present employment
_____Lack entrance requirements
_____Other (specify)

18. When your present obligation expires, would you agree to continue in the NG if an appropriately reduced retirement pay began at 55 years of age rather than the present age of 60 years?

_____I would probably continue participation without this
_____Yes, this would convince me to continue
_____No, I would not continue

19. Are you planning to participate in the NG for 20 years to earn retirement benefits?

_____Yes
_____Probably
_____Uncertain
_____Possibly, but very unlikely
_____Definitely not

20. Do you think you could get a part-time civilian job that would pay as much as you get for the same time in the NG?

_____Yes
_____No
_____Don't Know

21. In your civilian job have you ever been passed over or slowed in promotion, denied other benefits, or discharged because of your Guard membership or Guard training participation?

_____No
_____Yes, within the last 3 years
_____Yes, but it has not happened within the last 3 years

22. What is your civilian employer's leave policy for your Guard annual training duty?

_____Permits 2 weeks extra vacation leave with pay
_____Permits 2 weeks leave without pay
_____Permits 2 weeks leave but only pays me the difference between my Guard and civilian pay
_____Will not permit special leave without pay, must use my regular vacation leave
_____Does not apply, I am self-employed or unemployed

23. What is your present occupation?

_____Common laborer
_____Construction trade
_____Farming
_____Accounting
_____Retail sales
_____Teaching or training
_____Mechanic
_____Administrative, clerical
_____Technical
_____Government
_____Transportation
_____Tourism
_____Mining
_____Other

24. For what occupation are you best trained?

_____Common laborer
_____Construction trade
_____Farming
_____Accounting
_____Retail sales
_____Teaching or training
_____Mechanic
_____Administrative, clerical
_____Technical
_____Government
_____Transportation
_____Tourism
_____Mining
_____Other

25. How well do you feel your skills are being utilized in your present military status?

_____Very well
_____Well
_____Fair
_____Poorly
_____Very poorly

26. Have you attended any non-requested formal military schools?

_____Yes, but did not graduate from any
_____Yes, and graduated from at least one
_____No

27. Have you taken any non-requested military correspondence courses?

_____Yes, but did not pass any
_____Yes, and passed at least one
_____Yes, and presently in process
_____No

APPENDIX C

ANALYSIS OF DATA, SOUTH DAKOTA SURVEY

QUESTION 17 (Corresponds to Q 14 on N. C. Survey):

	Responses A	B	C	Total	%
Non-Career	293 (536.25)	860 (781.3)	529 (369.85)	1682	65
Career	532 (288.75)	342 (420.7)	40 (199.15)	914	35
Total	825	1202	569	2596	

I. H_o: There is no significant relationship between a Guardsman's career status and his willingness to extend his obligation in the Guard given tuition assistance.

II. .05 level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_o if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 110.34 + \ldots +$

$110.34 + \geq 5.99$

V. ∴Reject H_o

QUESTION 18 (Corresponds to Q 12 on N.C. Survey):

	Responses A	B	C	D	Total	%
Non-Career	876 (850.85)	589 (664.95)	121 (95.55)	73 (51.35)	1659	65
Career	433 (458.15)	434 (358.05)	26 (51.45)	6 (27.65)	899	35
Total	1309	1023	147	79	2558	

I. H_o: There is no significant relationship between a Guardsman's career status and his intent to remain in the Guard given further schooling.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 7.82$

III. Reject H_o if computed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 0.74 + 8.68 + 6.78 + 9.12 + 1.38 + 16.11 + 12.59 + 16.95$
$= 72.35$

$72.35 > 5.99$

V. ∴ Reject H_o

QUESTION 19 (Corresponds to Q 13 on N. C. Survey):

Responses

	A	B	C	D	Total	%
Non-Career	422 (416.00)	199 (159.80)	520 (505.05)	548 (579.15)	1690	65
Career	219 (224.00)	93 (102.20)	257 (271.95)	343 (311.85)	911	35
Total	640	292	777	891	2601	

I. H_o: There is no significant relationship between a Guardsman's career status and his desire to attend further education given available funds.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value $\chi^2 = 7.82$

III. Reject H_o if computed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 0.09 + 0.45 + 0.44 + 1.68 + 0.16 + 0.83 + 0.82 + 3.11$
$= 7.57$

$7.57 < 7.82$

V. ∴ Accept H_o

QUESTION 20 (Corresponds to Question 17 on N. C. Survey):

Responses

	A	B	C	D	E	F	Total	%
Non-Career	527 (475.15)	46 (37.05)	386 (44.60)	261 (244.40)	392 (434.85)	43 (35.75)	1655	65
Career	204 (255.85)	11 (19.95)	298 (239.40)	115 (131.60)	277 (234.15)	12 (19.25)	909	35
	731	57	684	376	669	55	2564	

I. H_o: There is no significant relationship between a Guardsman's career status and obstacles to further education.

II. .05 Level of Significance; 5 Degrees of Freedom; Chi-Square Test; 11.07 = Table Value of χ^2

III. Reject H_o if computed $\chi^2 \geq 11.07$

IV. $\sum \frac{(O-E)^2}{E}$ = 5.66 + 2.16 + 7.72 + 1.28 + 4.22 + 1.47 + 10.51 + 4.02 + 14.34 + 23.76 = 51.38

51.38 > 11.07

V. ∴ Reject H_o

QUESTION 21 (Corresponds to Q 8 on N. C. Survey):

	Responses					
	A	B	C	D	Total	%
Non-Career	297 (280.80)	454 (433.55)	379 (387.40)	550 (571.35)	1680	65
Career	126 (151.20)	213 (233.45)	217 (208.6)	329 (307.65)	885	35
Total	432	667	596	879	2565	

I. H_o: There is no significant relationship between a Guardsman's career status and his willingness to remain in the Guard given half tuition.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of χ^2 = 7.82

III. Reject H_o if computed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{D}$ = 0.94 + 0.97 + 0.18 + 0.80 + 4.20 + 0.39 + 1.48 + 1.79 = 10.66

10.66 > 7.82

V. ∴ Reject H_o

QUESTION 22 (Corresponds to Q 13 on N. C. Survey):

	Responses					
	A	B	C	D	Total	%
Non-Career	361 (337.35)	654 (665.60)	366 (388.70)	290 (267.15)	1671	65
Career	158 (181.65)	370 (358.40)	232 (209.30)	121 (143.85)	881	35
Total	519	1024	598	411	2552	

I. H_o: There is no significant relationship between a Guardsman's career status and his ability to continue his education given half tuition.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 7.82$

III. Reject H_o if ocmputed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 1.66 + 0.20 + 1.33 + 1.95 + 3.08 + 0.38 + 2.46 + 3.63$
$= 14.687$

$14.687 > 7.82$

V. $\therefore$ Reject H_o

QUESTION 25 (Corresponds to Q 15 on N. C. Survey):

	Responses					
	A	B	C	D	Total	%
Non-Career	346 (390.00)	687 (670.80)	301 (338.65)	332 (255.75)	1667	65
Career	254 (210.00)	345 (361.20)	220 (182.35)	63 (138.25)	882	35
Total	600	1032	521	395	2549	

I. H_o: There is no significant relationship between a Guardsman's career status and his willingness to remain in the Guard given free tuition.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value $\chi^2 = 7.82$

III. Reject H_o if computed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 4.96 + 0.39 + 4.19 + 22.06 + 9.22 + 0.73 + 7.77 + 40.96$
$= 90.28$

$90.28 > 7.28$

V. $\therefore$ Reject H_o

APPENDIX D

CALCULATIONS
NORTH CAROLINA SURVEY

QUESTION 8:

NUMERICAL RATING BY CAREER STATUS

Non-Career

X_1	x_1	x_1^2
1	-6.03	36.36
1	-6.03	36.36
3	-4.03	16.24
3	-4.03	16.24
3	-4.03	16.24
3	-4.03	16.24
4	-3.03	9.18
5	-2.03	4.12
5	-2.03	4.12
5	-2.03	4.12
5	-2.03	4.12
5	-2.03	4.12
6	-1.03	1.06
6	-1.03	1.06
6	-1.03	1.06
6	-1.03	1.06
6	-1.03	1.06
7	-0.03	0.00
7	-0.03	0.00
7	-0.03	0.00
8	0.97	0.94
9	1.97	3.88
9	1.97	3.88
9	1.97	3.88
10	2.97	8.82
10	2.97	8.82
11	3.97	15.76
12	4.97	24.70
12	4.97	24.70
12	4.97	24.70
12	4.97	24.70
12	4.97	24.70
232		333.06

$\Sigma X_1 = 232$

$n_1 = 33$

$\bar{X}_1 = 7.03$

$\Sigma x_1^2 = 333.06$

Career

X_2	x_1	x_1^2
1	-6.06	36.72
2	-5.06	25.60
2	-5.06	25.60
5	-2.06	4.24
5	-2.06	4.24
5	-2.06	4.24
7	-0.06	0.00
7	-0.06	0.00
8	0.94	0.88
9	1.94	3.76
9	1.94	3.76
10	2.94	8.64
10	2.94	8.64
11	3.94	15.52
11	3.94	15.52
11	3.94	15.52
113		172.08

$\Sigma X_2 = 113$

$n_2 = 16$

$\bar{X}_2 = 7.06$

$\Sigma x_1^2 = 172.08$

I. H_o: There is no significant relationship between a Guardsman's career status and his ranking of a tuition assistance benefit.

II. .05 Level of Significance; 2 Degrees of Freedom; Fisher "t" Test; Table Value of $t = 4.3027$

III. Reject H_o if computed $t \geq 4.3027$

IV.
$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{\Sigma x_1^2 + \Sigma x_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$= \frac{7.03 - 7.06}{\sqrt{\left(\frac{333.06 + 172.08}{33 + 16 - 2}\right)\left(\frac{1}{33} + \frac{1}{16}\right)}}$$

D 1

$$= \frac{-0.03}{\sqrt{\left(\frac{505.34}{47}\right)(0.09)}} = \frac{-0.03}{\sqrt{(10.77)(0.09)}} = \frac{-0.03}{\sqrt{0.96}} = \frac{-0.03}{0.98}$$

$= 0.0306$

$0.0306 < 4.3027$

V. $\therefore$ Accept H_o

NUMERICAL RATING BY AGE

$x \leq 25$

X_1	x_1	x_1^2
1	-6.42	41.22
3	-4.42	19.54
3	-4.42	19.54
4	-3.42	11.70
5	-2.42	5.86
5	-2.42	5.86
5	-2.42	5.86
5	-2.42	5.86
6	-1.42	2.02
6	-1.42	2.02
6	-1.42	2.02
6	-1.42	2.02
7	-0.42	0.18
7	-0.42	0.18
7	-0.42	0.18
8	0.58	0.34
9	1.58	2.49
9	1.58	2.49
10	2.58	6.65
10	2.58	6.65
11	3.58	12.81
12	4.58	20.97
12	4.58	20.97
12	4.58	20.97
12	4.58	20.97
12	4.58	20.97
193		260.34

$\Sigma X_1 = 193$

$n_1 = 26$

$\bar{X}_1 = 7.42$

$\Sigma x_1^2 = 260.34$

$x \geq 26$

X_2	x_2	x_2^2
1	-5.61	31.47
1	-5.61	31.47
2	-4.61	21.25
2	-4.61	21.25
3	-3.61	13.03
3	-3.61	13.03
5	-1.61	2.59
5	-1.61	2.59
5	-1.61	2.59
5	-1.61	2.59
6	-0.61	0.37
7	0.39	0.15
7	0.39	0.15
8	1.39	1.93
9	2.39	5.71
9	2.39	5.71
9	2.39	5.71
10	3.39	11.49
10	3.39	11.49
11	4.39	19.27
11	4.39	19.27
11	4.39	19.27
12	5.39	29.05
152		271.43

$\Sigma X_2 = 152$

$n_2 = 23$

$\bar{X}_2 = 6.61$

$\Sigma x_2^2 = 271.43$

NUMERICAL RATING BY AGE

$x \leq 35$

X_1	x_1	x_1^2
1	-5.80	33.71
1	-5.80	33.71
1	-5.80	33.71
2	-4.80	23.10
3	-3.80	14.47
3	-3.80	14.47
3	-3.80	14.47
3	-3.80	14.47
4	-2.80	7.87
5	-1.80	3.26
5	-1.80	3.26
5	-1.80	3.26
5	-1.80	3.26
5	-1.80	3.26
6	-0.80	0.65
6	-0.80	0.65
6	-0.80	0.65
6	-0.80	0.65
6	-0.80	0.65
7	0.19	0.04
7	0.19	0.04
7	0.19	0.04
8	1.19	1.43
9	2.19	2.62
9	2.19	2.62
9	2.19	2.62
10	3.19	10.20
10	3.19	10.20
10	3.19	10.20
11	4.19	17.59
12	5.19	21.78
12	5.19	21.78
12	5.19	21.78
12	5.19	21.78
12	5.19	21.78
12	5.19	21.78
245		397.91

$\Sigma x_1 = 245$

$n_1 = 36$

$\bar{X}_1 = 6.80$

$\Sigma x_1^2 = 397.91$

$x \geq 36$

X_2	x_2	x_2^2
2	-5.69	32.40
5	-2.69	7.47
5	-2.69	7.47
5	-2.69	7.47
7	-0.69	0.48
7	-0.69	0.48
8	-0.31	0.95
9	1.31	1.71
9	1.31	1.71
10	2.31	5.33
11	3.31	10.94
11	3.31	10.94
11	3.31	10.94
100		97.44

$\Sigma X_2 = 100$

$n_2 = 13$

$\bar{X}_2 = 7.69$

$\Sigma x_2^2 = 97.44$

T Test for age (35 or less; 36 or over)

= -0. 8826

Again accept H_o

I. H_0: There is no significant relationship between a Guardsman's age and his ranking of a tuition assistance benefit.

II. .05 Level of Significance; 2 Degrees of Freedom; Fisher "t" Test; Table Value of t = 4.3027

III. Reject H_0 if computed $t \geq 4.3027$

IV.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum x_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$= \frac{7.42 - 6.41}{\sqrt{\left(\frac{260.24 + 271.43}{26 + 23 - 2}\right)\left(\frac{1}{26} + \frac{1}{23}\right)}} = \frac{0.01}{\sqrt{\left(\frac{531.77}{47}\right)(0.081)}}$$

$$= \frac{0.01}{\sqrt{(11.314)(0.081)}} = \frac{0.01}{\sqrt{0.9164}} = \frac{0.01}{0.95} = 0.0526$$

$0.0526 < 4.3027$

V. ∴Accept H_0

NUMERICAL RATING BY LEVEL OF EDUCATION

		NHS	HS	SC	C	Total
Rating	I	2 (1.63)	3 (5.10)	4 (2.86)	1 (0.41)	10
	II	2 (3.27)	13 (10.20)	5 (5.71)	0 (0.82)	20
	III	4 (3.10)	9 (9.69)	5 (5.43)	1 (0.78)	19
Total		8	25	14	2	49

I. H_0: There is no significant relationship between a Guardsman's level of education and his ranking of a tuition assistance benefit.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_0 if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.03 + 0.85 + 0.45 + 0.85 + 0.49 + 0.77 + 0.09 + 0.82 + 0.26 + 0.05 + 0.03 + 0.06 = 4.81$

$4.81 < 12.59$

V. ∴Accept H_0

QUESTION 12:

FUTURE PLANS BY CAREER STATUS

		Non-Career	Career	Total
Responses	No	20 (19.29)	7 (7.71)	27
	Yes	11 (12.86)	7 (5.14)	18
	Currently Attending	4 (2.86)	0 (1.14)	4
	Total	35	14	49

I. H_0: A significant relationship does not exist between a Guardsman's career status and his future educational plans.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_0 if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 0.03 + 0.07 + 0.27 + 0.67 + 0.45 + 1.14 = 2.63$

$2.63 < 5.99$

V. $\therefore$ accept H_0

FUTURE PLANS BY AGE

		x ≤ 25	x ≥ 26	Total
Responses	No	18 (15.43)	9 (11.57)	27
	Yes	6 (10.29)	12 (7.71)	18
	Currently Attending	4 (2.29)	0 (1.71)	4
	Total	28	21	49

I. H_0: There is no significant relationship between a Guardsman's age and his future educational plans.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_0 if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 0.43 + 0.57 + 1.79 + 2.39 + 1.28 + 1.71 = 8.17$

$8.17 > 5.99$

V. $\therefore$ Reject H_0

FUTURE PLANS BY EDUCATIONAL LEVEL

		NHS	HS	SC	C	Total
Responses	No	4 (4.41)	18 (14.33)	5 (7.16)	0 (1.10)	27
	Yes	4 (2.94)	6 (9.55)	6 (4.78)	2 (0.73)	18
	Currently Attending	0 (0.65)	2 (2.12)	2 (1.06)	0 (0.16)	4
	Total	8	26	13	2	49

I. H_0: No significant differentiation exists between a Guardsman's level of education and his future educational plans.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_0 if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.04 + 0.94 + 0.65 + 1.10 + 0.38 + 1.32 + 0.31 + 2.21 + 0.65 + 0.01 + 0.83 + 0.16 = 8.60$

$8.60 < 12.59$

V. $\therefore$ Accept H_0

QUESTION 13:

ATTENDANCE IF GRANTED ASSISTANCE BY CAREER STATUS

		Non-Career	Career	Total
Responses	A	9 (7.6)	2 (3.4)	11
	B	4 (4.9)	3 (2.1)	7
	C	8 (9.0)	5 (4.0)	13
	D	13 (12.5)	5 (5.5)	18
	Total	34	15	49

I. H_0: There is no significant relationship between a Guardsman's career status and his desire to attend school given available funds.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 7.82$

III. Reject H_0 if computed $\chi^2 \geq 7.82$

IV. $\frac{(O-E)^2}{E} = 0.26 + 0.58 + 0.17 + 0.39 + 0.11 + 0.25 + 0.02 + 0.05 = 1.83$

$1.83 < 7.82$

V. $\therefore$ Accept H_0

ATTENDANCE IF GRANTED ASSISTANCE BY AGE

		$x \leq 25$	$x \geq 26$	Total
Responses	A	6 (6.1)	5 (4.9)	11
	B	4 (3.9)	3 (3.1)	7
	C	5 (7.2)	8 (5.8)	13
	D	12 (9.9)	6 (8.1)	18
	Total	27	22	49

I. H_o: There is no significant relationship between a Guardsman's age and his desire to attend an educational institution, given available funds.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table value of $\chi^2 = 7.82$

III. Reject H_o if computed value of $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 0.00 + 0.00 + 0.00 + 0.00 + 0.67 + 0.83 + 0.45 + 0.54 =$
2.49 $\quad 2.49 < 7.82$

V. $\therefore$ Accept H_o

ATTENDANCE IF GRANTED ASSISTANCE BY LEVEL OF EDUCATION

		NHS	HS	SC	C	Total
Responses	A	1 (1.8)	5 (6.1)	4 (2.7)	1 (0.4)	11
	B	1 (1.1)	3 (3.9)	3 (1.7)	0 (0.3)	7
	C	3 (2.1)	7 (7.2)	2 (3.2)	1 (0.5)	13
	D	3 (2.9)	12 (9.9)	3 (4.4)	0 (0.8)	18
	Total	8	27	12	2	49

I. H_o: There is no significant relationship between a Guardsman's level of education and his desire to attend school given available funds.

II. .05 Level of Education; 9 Degrees of Freedom; Chi-Square Test; Table value of $\chi^2 = 16.92$

III. Reject H_o if computed $\chi^2 \geq 16.92$

IV. $\sum \frac{(O-E)^2}{E} = 0.36 + 0.20 + 0.63 + 0.90 + 0.01 + 0.21 + 0.99 + 0.30 + 0.39 + 0.01 + 0.45 + 0.50 + 0.00 + 0.45 + 0.45 + 0.80 = 6.65$

$6.65 < 16.92$

V. $\therefore$ Accept H_o

QUESTION 14:

EXTENSION OF OBLIGATION BY CAREER STATUS

		Non-Career	Career	Total
Responses	A	8 (11.9)	8 (4.1)	16
	B	15 (14.1)	4 (4.9)	19
	C	12 (8.9)	0 (3.1)	12
	Total	35	12	47

I. H_o: There is no significant relationship between a Guardsman's career status and his willingness to extend his service obligation, given tuition assistance.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_o if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 1.28 + 3.71 + 0.06 + 0.17 + 1.08 + 3.10 = 9.40$

$9.40 > 5.99$

V. $\therefore$ Reject H_o

EXTENSION OF SERVICE OBLIGATION BY AGE

		x ≤ 25	x ≥ 26	Total
Responses	A	6 (9.5)	10 (6.5)	16
	B	11 (11.3)	8 (7.7)	19
	C	11 (7.1)	1 (4.9)	12
	Total	28	19	47

I. H_o: There is no significant relationship between a Guardsman's age and his willingness to extend his service obligation, given tuition assistance.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_0 if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 1.29 + 1.88 + 0.01 + 0.01 + 2.14 + 3.10 = 8.43$

$8.43 > 5.99$

V. Reject H_0

EXTENSION OF SERVICE OBLIGATION BY LEVEL OF EDUCATION

		NHS	HS	SC	C	Total
Responses	A	4 (2.7)	7 (8.2)	4 (4.4)	1 (0.7)	16
	B	3 (3.2)	8 (9.7)	7 (5.3)	1 (0.8)	19
	C	1 (2.1)	9 (6.1)	2 (3.3)	0 (0.5)	12
Total		8	24	13	2	47

I. H_0: There is no significant relationship between a Guardsman's level of education and his willingness to extend his service obligation, given tuition assistance.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_0 if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.63 + 0.18 + 0.04 + 0.13 + 0.01 + 0.20 + 0.53 + 0.05 + 0.58 + 1.38 + 0.51 + 0.50 = 4.86$

$4.86 < 12.59$

V. Accept H_0

QUESTION 15:

AFFECT OF HALF TUITION ON RETENTION BY CAREER STATUS

		Non-Career	Career	Total
Responses	A	7 (13.13)	11 (4.87)	18
	B	19 (15.31)	2 (5.69)	21
	C	9 (6.56)	0 (2.46)	9
	Total	35	13	48

I. H_0: There is no significant relationship between a Guardsman's career status and his willingness to remain in the Guard given half tuition.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_0 if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 2.86 + 7.72 + 0.89 + 2.39 + 0.91 + 2.46 = 17.23$

$17.23 > 5.99$

V. ∴Reject H_0

AFFECT OF HALF TUITION ON RETENTION BY AGE

		x ≤ 25	x ≥ 26	Total
Responses	A	4 (10.50)	14 (7.50)	18
	B	15 (12.25)	6 (8.75)	21
	C	9 (5.25)	0 (3.75)	9
	Total	28	20	48

I. H_0: There is no significant relationship between a Guardsman's age and his willingness to remain in the Guard given half tuition.

II. .05 Level of Significance; 2 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 5.99$

III. Reject H_o if computed $\chi^2 \geq 5.99$

IV. $\sum \frac{(O-E)^2}{E} = 4.02 + 5.63 + 0.62 + 0.86 + 2.68 + 3.75 = 17.56$

$17.56 > 5.99$

V. $\therefore$ Reject H_o

AFFECT OF HALF TUITION ON RETENTION BY LEVEL OF EDUCATION

		NHS	HS	EC	C	Total
Response	A	3 (3.0)	7 (9.38)	7 (4.87)	1 (0.75)	18
	B	4 (3.50)	11 (10.94)	5 (5.68)	1 (0.88)	21
	C	1 (1.50)	7 (4.68)	1 (2.44)	0 (0.38)	9
	Total	8	25	13	2	48

I. H_o: There is no significant relationship between a Guardsman's level of education and his willingness to remain in the Guard given half tuition.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_o if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.00 + 0.60 + 0.93 + 0.08 + 0.07 + 0.00 + 0.08 + 0.12 + 0.17 + 1.15 + 0.85 + 0.38 = 4.43$

$4.43 < 12.59$

V. $\therefore$ Accept H_o

QUESTION 16:

CONTINUANCE OF EDUCATION BY CAREER STATUS

		Non-Career	Career	Total
Responses	A	3 (5.79)	5 (2.21)	8
	B	16 (13.02)	2 (4.98)	18
	C	11 (12.30)	6 (4.70)	17
	D	4 (2.89)	0 (1.11)	4
	Total	34	13	47

I. H_o: There is no significant relationship between a Guardsman's career status and his ability to continue his education, given half tuition.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 7.82$

III. Reject H_o if computed $\chi^2 \geq 7.32$

IV. $\sum \frac{(O-E)^2}{E} = 1.34 + 3.52 + 0.68 + 1.78 + 0.14 + 0.36 + 0.43 + 1.11 = 9.36$

$9.36 > 7.82$

V. $\therefore$ Reject H_o

CONTINUANCE OF EDUCATION BY AGE

		x ≤ 25	x ≥ 26	Total
Responses	A	1 (4.60)	7 (3.40)	8
	B	11 (10.34)	7 (7.66)	18
	C	11 (9.77)	6 (7.23)	17
	D	4 (2.30)	0 (1.70)	4
	Total	27	20	47

I. H_0: There is no significant relationship between a Guardsman's age and his ability to continue his education, given half tuition.

II. .05 Level of Significance; 3 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 7.82$

III. Reject H_0 if computed $\chi^2 \geq 7.82$

IV. $\sum \frac{(O-E)^2}{E} = 2.82 + 3.81 + 0.04 + 0.06 + 0.15 + 0.21 + 1.26 + 1.70 = 10.05$

$10.05 > 7.82$

V. $\therefore$ Reject H_0

CONTINUANCE OF EDUCATION BY EDUCATIONAL LEVEL

		NHS	HS	SC	C	Total
Responses	A	0 (1.19)	3 (4.26)	4 (2.21)	1 (0.34)	8
	B	3 (2.68)	8 (9.57)	7 (4.98)	0 (0.77)	18
	C	4 (2.53)	10 (9.04)	2 (4.70)	1 (0.72)	17
	D	0 (0.60)	4 (2.13)	0 (1.10)	0 (0.17)	4
	Total	7	25	13	2	47

I. H_0: There is no significant relationship between a Guardsman's level of education and his ability to continue his education, given half tuition.

II. .05 Level of Significance; 9 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 16.92$

III. Reject H_0 if computed $\chi^2 \geq 16.92$

IV. $\sum \frac{(O-E)^2}{E} = 1.19 + 0.37 + 1.45 + 1.28 + 0.04 + 0.26 + 0.82 + 0.77 + 0.85 + 0.10 + 1.55 + 0.11 + 0.60 + 1.64 + 1.10 + 0.17 = 12.30$

$12.30 < 16.92$

V. $\therefore$ Accept H_0

QUESTION 17:

OBSTACLES TO ATTENDANCE BY CAREER STATUS

		Non-Career	Career	Total
Responses	A	4 (4.3)	2 (1.7)	6
	B	0	0	0
	C	14 (15.8)	8 (6.2)	22
	D	4 (2.9)	0 (1.1)	4
	E	7 (7.2)	3 (2.8)	10
	F	1 (0.7)	0 (0.3)	1
	G	3 (2.2)	0 (0.8)	3
	Total	33	13	46

I. H_0: There is no significant relationship between a Guardsman's career status and obstacles to attendance in school.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_0 if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.02 + 0.05 + 0.21 + 0.52 + 0.42 + 1.1 + 0.60 + 0.01 + 0.13 + 0.30 + 0.29 + 0.8 = 3.85$

$3.85 < 12.59$

V. $\therefore$ Accept H_0

OBSTACLES TO ATTENDANCE BY AGE

		x 25	x 26	Total
Responses	A	2 (3.39)	4 (2.61)	6
	B	0	0	0
	C	12 (12.4)	10 (9.6)	22
	D	4 (2.3)	0 (1.7)	4
	E	6 (5.7)	4 (4.3)	10
	F	1 (0.6)	0 (0.4)	1
	G	1 (1.7)	2 (1.3)	3
Total		26	20	46

I. H_0: There is no significant relationship between a Guamanian's age and obstacles to attendance in school.

II. .05 Level of Significance; 6 Degrees of Freedom; Chi-Square Test; Table Value of $\chi^2 = 12.59$

III. Reject H_0 if computed $\chi^2 \geq 12.59$

IV. $\sum \frac{(O-E)^2}{E} = 0.57 + 0.74 + 0.01 + 0.02 + 1.26 + 1.7 + 0.83 + 0.02 + 0.27 + 0.40 + 0.29 + 0.38 = 5.68$

$5.68 < 12.59$

V. Accept H_0

OBSTACLES TO ATTENDANCE BY LEVEL OF EDUCATION

		NHS	HS	SC	C	Total
Responses	A	1 (0.91)	1 (3.26)	3 (1.57)	1 (0.26)	6
	B	0	0	0	0	0
	C	4 (3.35)	13 (11.96)	5 (5.74)	0 (0.96)	22
	D	0 (0.61)	4 (2.17)	0 (1.04)	0 (0.17)	4
	E	1 (1.52)	7 (5.43)	2 (2.61)	0 (0.43)	10
	F	1 (0.15)	0 (0.54)	0 (0.26)	0 (0.04)	1
	G	0 (0.46)	0 (1.63)	2 (0.78)	1 (0.13)	3
	Total	7	25	12	2	46

I. H_0: There is no significant relationship between a Guamanian's level of education and obstacles to attendance in school.

II. .05 Level of Significance; 18 Degrees of Freedom; Chi-Square Test; Table Value of χ^2 = 28.87

III. Reject H_0 if computed $\chi^2 \geq 28.87$

IV. $\sum \frac{(O-E)^2}{E}$ = 0.01 + 1.57 + 1.30 + 2.11 + 0.13 + 0.07 + 0.10 + 0.96 + 0.61 + 1.54 + 1.04 + 0.17 + 0.18 + 0.[illegible] + 0.14 + 0.43 + 4.[illegible] + 0.54 + 0.04 + 0.04 + 0.[illegible] + 1.63 + 0.56 + 5.[illegible] = 24.96

24.96 < 28.87

V. ∴ Accept H_0

END

DATE

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